



Discriminative Graphical Models for Classification

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Abstract

In many applications such as language processing and natural image analysis, input data shows significant dependencies that should be modeled appropriately to achieve good classification. This tutorial will present Conditional Random Field based discriminative models for classification in images, and efficient parameter learning techniques for such models. The key advantages of these models over traditional Markov Random Fields will be discussed. Finally, their application on contextual object detection, semantic scene segmentation, texture recognition and image denoising will be demonstrated.